

L3 ANSWER 2 OF 3 CAPLUS COPYRIGHT 2004 ACS on STN  
 AB The sewage treatment agents comprise powders or aq. solns. contg.  
 lysozyme, Gly, EDTA, and optional pigments. The enzyme-based agents show  
 good deodorization, sterilization, and cleansing effects.  
 ACCESSION NUMBER: 1995:243750 CAPLUS  
 DOCUMENT NUMBER: 122:16375  
 TITLE: Enzyme-based sewage treatment agents for  
 circulation-type toilets  
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 SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.  
 CODEN: JKXXAF  
 DOCUMENT TYPE: Patent  
 LANGUAGE: Japanese  
 FAMILY ACC. NUM. COUNT: 1  
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 06246258	A2	19940906	JP 1993-31925	19930222
PRIORITY APPLN. INFO.:			JP 1993-31925	19930222

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3. In the drawings, any words are not translated.

## DETAILED DESCRIPTION

### [Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the enzyme system circuit system toilet sewage disposal agent which defecates efficiently the sanitary sewage of a circuit system toilet which is poured on an enzyme system circuit system toilet sewage disposal agent, especially circulates through wash water.

[0002]

[Description of the Prior Art] In the rinsing toilet facility of a car (especially train), wash water is supplied to a Western style toilet bowl or a Japanese style toilet bowl, and washing of this Western style toilet bowl or a Japanese style toilet bowl is performed.

[0003] As one of the washing method of this, the wash water in a flush tank is led to a toilet bowl, subsequently to a sewage tank, it drops, and there are some which discharge the sanitary sewage in a sewage tank in a car base.

[0004] As another washing method, there are some which circulate through the supernatant liquor in a sewage tank.

[0005] In the washing method of the type which uses the former water for a passing away type, although there is a merit that wash water is clean and that it is sanitary, there are few amounts of wash water to the sordes which flows in a sewage tank from the place which lessens the amount of wash water, and a sordes is easy to be exposed to atmospheric air. And for this reason, there was a problem of becoming easy to generate a strong odor. Moreover, in a sewage tank, since it is the environment which is corrupted and is very easy to corrode, an odor is promoted by this putrefaction and corrosion.

[0006] On the other hand, in the thing of the washing method of the latter circuit system, since water exists so much in a sewage tank and a sordes sinks, there is comparatively little odor generating.

[0007] Conventionally, in the washing method of a circuit system, the various following processing agents are offered for the deodorization in a sewage tank, sterilization, and defecation.

[0008] \*\* The acid system or alkali system processing agent which carries out decomposition processing of the sanitary sewage chemically.

\*\* The enzyme system or microorganism system processing agent which carries out decomposition processing of the sanitary sewage by the enzyme or the microorganism reaction.

[0009] Among these, as an enzyme system processing agent, the thing using enzymes, such as an amylase, a protease, and lipase, is proposed.

[0010]

[Problem(s) to be Solved by the Invention] However, in the conventional enzyme system processing agent, what was fully suitable for utilization in deodorization, sterilization and the defecation effectiveness, the other fields of cost, etc. is not offered, but the amelioration is desired.

[0011] This invention is made in view of the above-mentioned conventional actual condition, and it is remarkably excellent in deodorization, sterilization, and the defecation effectiveness, and it is easy to use it for them, and aims at offering the high new enzyme system circuit system toilet sewage disposal

agent of practicality.

[0012]

[Means for Solving the Problem] The enzyme system circuit system toilet sewage disposal agent of claim 1 is characterized by consisting of powder containing RIZOCHIUMU, a glycine, and ethylene-diamine-tetraacetic acid.

[0013] The enzyme system circuit system toilet sewage disposal agent of claim 2 is characterized by consisting of powder containing RIZOCHIUMU, a glycine, ethylene-diamine-tetraacetic acid, and coloring matter.

[0014] The enzyme system circuit system toilet sewage disposal agent of claim 3 is characterized by consisting of a water solution containing RIZOCHIUMU, a glycine, and ethylene-diamine-tetraacetic acid.

[0015] The enzyme system circuit system toilet sewage disposal agent of claim 4 is characterized by consisting of a water solution containing RIZOCHIUMU, a glycine, ethylene-diamine-tetraacetic acid, and coloring matter.

[0016] This invention is explained below at a detail.

[0017] The enzyme system circuit system toilet sewage disposal agent of this invention makes an active principle RIZOCHIUMU, a glycine, and ethylene-diamine-tetraacetic acid (EDTA), and adds coloring matter if needed.

[0018] RIZOCHIUMU dissolves the saprophytic-bacteria cell wall related to sanitary-sewage object putrefaction, and does so the operation effectiveness of finally destroying saprophytic bacteria, and a glycine does so the operation effectiveness of the growth inhibition of saprophytic bacteria, and saprophytic-bacteria cell wall composition inhibition. Moreover, EDTA does so the operation effectiveness of destroying a part of saprophytic-bacteria cell wall. Dissolving a cell wall by RIZOCHIUMU, they bar restoration by new cell wall composition by the glycine, and these three components discover further the three-fold sterilization effectiveness that EDTA performs cytolysis also from another.

[0019] In a case usual from being used in order to color the sanitary sewage a cool color and to also raise cleanliness also from on vision, the high coloring matter of coloring matter of coolness, such as a blue system and a green system, is desirable. As blue system coloring matter, coloring matter, such as blue No. 1, blue No. 2, a methylene blue, and FURORO cyanine blue, is used, and green No. 3 etc. is used as green system coloring matter.

[0020] As for the blending ratio of coal of RIZOCHIUMU, a glycine, and EDTA, in the powdered enzyme system circuit system toilet sewage disposal agent of claim 1, it is desirable that they are the following range.

[0021] RIZOCHIUMU: 0.005 - 0.75-% of the weight glycine : 70 - 95-% of the weight EDTA : As for the blending ratio of coal of RIZOCHIUMU, a glycine, EDTA, and coloring matter, in the powdered enzyme system circuit system toilet sewage disposal agent of claim 2, it is desirable that they are the following range again 0.05 to 30% of the weight.

[0022] RIZOCHIUMU: 0.005 - 0.75-% of the weight glycine : 70 - 95-% of the weight EDTA : 0.05 - 30-% of the weight coloring matter : As for the blending ratio of coal of RIZOCHIUMU, a glycine, EDTA, and water, in the water-solution-like enzyme system circuit system toilet sewage disposal agent of 0.1 - 8-% of the weight claim 3, it is desirable that they are the following range.

[0023] RIZOCHIUMU: 0.001 - 0.15-% of the weight glycine : 2.5 - 20-% of the weight EDTA : 0.01 - 0.2-% of the weight water : As for the blending ratio of coal of RIZOCHIUMU, a glycine, EDTA, and coloring matter, in the remainder and the water-solution-like enzyme system circuit system toilet sewage disposal agent of claim 4, it is desirable that they are the following range.

[0024] RIZOCHIUMU: 0.001 - 0.15-% of the weight glycine : 2.5 - 20-% of the weight EDTA : 0.01 - 0.2-% of the weight coloring matter : 0.1 - 8-% of the weight water : In the enzyme system circuit system toilet sewage disposal agent of remainder this invention, if there are few rates of each component than the above-mentioned range, sufficient addition effectiveness will not be acquired.

[0025] On the contrary, if [ than the above-mentioned range ] more, in RIZOCHIUMU, there is a

problem in a cost side and there is no improvement in the remarkable effectiveness according to increase in quantity at a glycine, and there is a problem in a cost side in EDTA, and it remains further, without disassembling coloring matter with coloring matter at the time of waste water treatment, and is not desirable.

[0026] In addition, as for the enzyme system circuit system toilet sewage disposal agent of this invention, perfume, such as a lemon tone and a bouquet tone, can also do the thing of liking [ the filler which are about 0.1 - 2.0 % of the weight and a sodium sulfate magnesium sulfate, etc. about defoaming agents, such as a silicon system, ] done for amount addition use about 0.5 to 5.0% of the weight if needed in addition to the above-mentioned component. Moreover, in the case of the processing agent of the shape of a water solution of claims 3 and 4, addition use of the buffers, such as a phosphoric-acid hydrogen potassium, can also be carried out especially about 0.5 to 1.5% of the weight further.

[0027] The powdered enzyme system circuit system toilet sewage disposal agent of claims 1 and 2 may supply and use this for direct wash water, and it may be made to dissolve in water beforehand to the same extent as the concentration of above-mentioned claims 3 and 4, and it may prepare and use a water solution.

[0028] Moreover, the water-solution-like enzyme system circuit system toilet sewage disposal agent of claims 3 and 4 can supply this to direct wash water, or can sprinkle and use it for a toilet bowl etc.

[0029]

[Function] RIZOCHIUMU contained in the enzyme system circuit system toilet sewage disposal agent of this invention dissolves the saprophytic-bacteria cell wall related to sanitary-sewage object putrefaction, the outstanding operation effectiveness of finally destroying saprophytic bacteria is shown, and a glycine shows the outstanding operation effectiveness of the growth inhibition of saprophytic bacteria, and saprophytic-bacteria cell wall composition inhibition. Moreover, EDTA shows the operation effectiveness of destroying a part of saprophytic-bacteria cell wall.

[0030] The enzyme system circuit system toilet sewage disposal agent of this invention shows the outstanding deodorization, sterilization, and the defecation effectiveness by including these RIZOCHIUMU, a glycine, and EDTA.

[0031] And by including coloring matter further, it can be colored the color which is rich in coolness, and the cleanliness of appearance can be raised further.

[0032]

[Example] An example and the example of a comparison are given to below, and this invention is more concretely explained to it.

[0033] By the combination shown in examples 1-4, the example 1 of a comparison, and two table 1, the processing agent was prepared and the treatment effect was examined by the following approach. A result is shown in Table 1.

[0034] To 0.15l. of test-method water, when it was a powdered processing agent and was 0.25g and a water-solution-like processing agent, 0.3g added, respectively, and addition of what mixed 35g and 2g of stools for human urine to this was carried out 4 times (for four days) at a rate on 1 time / 1st. Shaking was continued at 30 degrees C in the meantime, and an odor and other situations were observed day by day [ 1 ].

[0035] It is clearer than Table 1 that the enzyme system circuit system toilet sewage disposal agent's of this invention the remarkably excellent treatment effect is shown.

[0036]

[Table 1]

例		実 施 例				比 較 例	
		1	2	3	4	1	2
配 合  (重量%)	リゾチウム	0.5	0.75	0.1	0.2	0	0
	グリシン	80	70	16	14	0	0
	EDTA	19.5	29.25	3.9	5.85	0	0
	水	0	0	80.0	80.0	0	100.0
ア濃 ン度 モ試 ニ験 ア結 ガ果 ス (ppm)	1日後	0.2	0.2	0.3	0.3	0.9	0.4
	2日後	0.7	0.4	0.8	1.0	2.8	3.0
	3日後	1.3	1.1	1.3	1.6	9.4	6.8
	4日後	2.1	1.8	2.7	2.9	17.0	15.4

[0037]

[Effect of the Invention] The enzyme system circuit system toilet sewage disposal agent of this invention can be excellent in deodorization, sterilization, and the defecation effectiveness, moreover can be used easily, and can be used very effectively as a sewage disposal agent of circuit system toilets, such as a toilet for cars, as explained in full detail above.

[Translation done.]